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ABSTRACT

This instructional packet is one of 14 school environmental education programs developed for use in the classroom and at the Dahlem Environmental Education Center (DEEC) of the Jackson Community College (Michigan). Provided in the packet are pre-trip activities, field trip activities, and post-trip activities which focus on the characteristics of spring birds. Strategies for using these activities with first grade students are also provided. The pre-trip activities include a role playing exercise, investigations of chicken eggs and bird adaptations, and methods to sharpen the sense of hearing. Activity sheets and a letter to parents explaining the purpose of the program are included. Activities at the DEEC involve watching birds, looking for bird nests/holes, and listening to bird songs. (These and other activities and lists of formal and non-formal field trip objectives are provided in a separate field trip guide.) The post-trip activities (with related activity sheets) include studying birds at school and at home, making birdfeeders, and making drawings of birds. Additional bird-related art activities are suggested. The activities provide opportunities for students to practice skills in classifying, comparing, cooperating, and communicating during science, language arts, and art lessons. (JN)

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"Spring Birds" is one of fourteen school environmental education programs developed by the Dahlem Environmental Education Center of the Jackson Community College. Assistance for the project was provided by the Institute of Museum Services Special Projects Grant #G008103172, of the U.S. Department of Education.

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Jackson Community College

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Spring Birds

A Spring Activity Packet for First Grade

You and your students are about to make some fine-feathered friends. You won't have to travel far to meet them -- they're everywhere! These friendships will begin at school, grow at the Dahlem Environmental Education Center, and deepen back in the classroom. You will even make some friends at home!

By watching and identifying birds near your school and at the Dahlem Center, your students will learn about their interesting adaptations, songs, nests, and habits. Because these concepts were developed from a survey of elementary science curriculums, "Spring Birds" should closely correlate with your science lessons and enhance language arts and art curriculums as well.

A variety of activities will challenge your students to practice skills such as observing, classifying, cooperating, and communicating. And, by heightening their awareness of birds, your students will begin to appreciate some of the different forms of life with which they share the earth. In the years to come this appreciation may blossom into a concern about the environment, motivating them to seek more information and to act as environmentally responsible citizens.

The pre-trip activities in this packet have been carefully designed to introduce your students to the exciting world of birds and to prepare them for their field trip. The selected post-trip activities will reinforce and extend the concepts already introduced. Optional activities and references are also included.

So smile and put your best foot forward -- you're about to meet some new friends!

Contents

Goals and Objectives.....1

Pre-Trip Activities

- Hatching Into Chicks.....3
- The Inside Story.....4
- Birds Are Alike Yet Different.....5
- Adaptations.....5
- Will You Listen to That?.....6
- Vocabulary Words.....7
- Activity Sheets #1-2
- Parent Letter

Field Trip.....9

Post-Trip Activities

- Birds at Home and School.....11
- Feed the Birds.....12
- Birds in Your Classroom.....13
- Create a Bird.....14
- Art for the Birds.....15
- "Egg-stra" Options.....16
- Activity Sheets #3-8

References.....19

Goals and Objectives

Program Goal

Students will become more aware of birds and their characteristics.

Program Objectives

Students will:

-distinguish birds from other animals by listing common avian characteristics.

-discriminate common species of birds by observing differences in their appearance, diet, and song.

-demonstrate an understanding of the concept of adaptation by matching bird beaks to their functions.

-improve listening skills by pointing out different bird songs.

-demonstrate the use of binoculars by viewing birds through them.

-express themselves creatively by performing a bird-related roleplay and making a bird-related art project.

-act in a concerned and responsible manner while working on a cooperative project to help birds.

Pre-Trip Activities

The following five activities are important because they will prepare your class for the field trip in a fun and interesting way.

Hatching Into Chicks

This activity introduces "Spring Birds" to your students by capturing their imaginations. It's a role-play that will transform them into a brood of chicks.

Seat your class comfortably on the classroom floor or school lawn. Ask your students to pretend that they are young chicks developing inside eggs. Then read the following role-play as your students act it out. They can keep their eyes open or closed throughout, or they can begin with their eyes closed and open them when they "hatch."

You are a tiny speck inside a big dark egg. You have a lot of room inside your egg and are very comfortable. Then things change. You begin to grow. The more you grow, the more cramped you become! After awhile you can barely move. You have to draw you legs tightly up to your chest, tuck your beak down as far as you can, and cover your head with your wings.

You get tired of being cramped inside your egg. Soon it's time to hatch. You peck on the inside of your shell with the pointed "tooth" at the end of your beak. You make a tiny hole! Air! You take a gulp of fresh air and stop to rest. Then you get so excited that you peck some more. The hole gets bigger and bigger until you can see through it. Light! It's so bright it hurts your eyes. After a long rest you gather all you strength and push with all your might. The egg cracks open! You burst out into the daylight and collapse into a wet, tired heap.

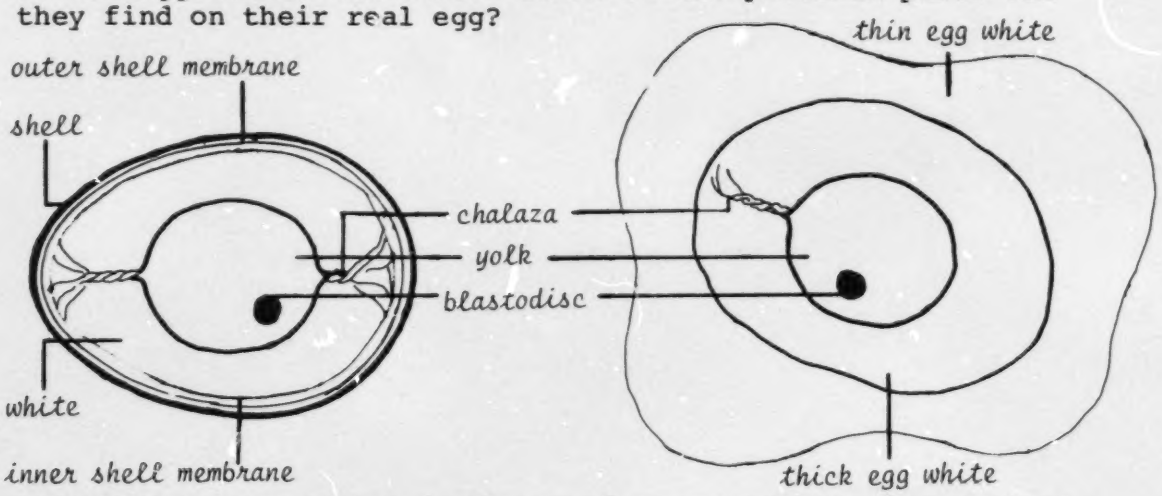
During your long rest you dry off. Then you decide to explore your wonderful new world! Slowly you stretch your legs and stand up. You take your first wobbly steps balancing yourself with your wings.

Soon you begin to walk all over the place! You bump into your brothers and sisters who just hatched, too. Then you find your wings. You begin to flap them, slowly at first, then faster and faster. Then, exhausted, you crumple into a ball and fall asleep. You dream about learning to fly!

As soon as your students finish their performances, ask them to describe what it was like inside their eggs. Was it hard to hatch? Was it fun being a newborn chick? Did they want to learn how to fly? Transform your actors and actresses into artists by asking them to draw pictures inspired by the role-play.

The Inside Story

It's time to explore a real egg. Carefully crack open the contents of a chicken egg into a bowl. Invite your students to take a close look at the cracked shell and the parts of the egg inside the bowl. Which of the pictured parts can they find on their real egg?



The fertile chicken egg contains a developing embryo and its food supply. If incubated in a warm (107˚F) humid environment a fertilized egg should hatch in 21 days. The hen has several thousand eggs at birth. In the functioning ovary the cells enlarge into yolks a few at a time. When fully formed, a yolk is released into the entrance of the oviduct. There a rooster's sperm fertilizes the *blastodisc*, the whitish spot on the surface of every egg yolk. The other parts of the egg (the egg white, chalaza, shell membranes, and shell) are added to the yolk as it passes through the oviduct.

Each part of the egg has a special function. The egg *yolk* contains large amounts of fat and protein as well as vitamins and minerals that are essential for normal growth.

The *egg white* provides a large amount of protein necessary for proper development. Two twisted cords called *chalazae* (kuh-lay-zee) fasten the egg yolk to the inner shell membrane. The *shell membranes* protect the contents of the egg from the invasion of bacteria and prevent the liquid in the egg from evaporating. The *shell*, or hard protective outer covering of the egg, has many tiny pores that allow the egg to "breathe". Carbon dioxide and oxygen pass in and out of the egg through these pores. Can you see them through a magnifying lens? The first air the chick will breathe is contained in the *air cell* at the large end of the egg.

The completed egg is released about 24 hours after the release of the yolk from the ovary. Approximately 30 minutes after an egg is laid, another yolk is released and the process repeats itself.

Birds Are Alike Yet Different

Pictures or illustrations of birds can help children see the structures that all birds have in common and some differences among the species. Show your students pictures of birds that you have collected from nature magazines, posters, picture books, or field guides. Discuss the parts that all the birds have in common (feathers, a beak, two feet, two wings, and a tail). This idea is reinforced by Activity Sheet 1. Can your students explain how each of the structures helps a bird? Wings enable a bird to fly; feathers keep it warm and dry; a beak allows it to gather food, carry nest materials, and feed its young; feet aid a bird in catching food, swimming, hopping, walking, and making a nest; and its tail helps it to steer and balance.

Then ask what clues can be used to tell birds apart -- size, color, shape, habitat, nests, eggs, etc. Your students can sort through old nature magazines for more pictures of birds and their nests, eggs, and habitats. Or students can color pictures. Why not liven up your classroom by using their pictures to make a bulletin board display?

Adaptations

An adaptation is a special feature of an organism that improves its chances of surviving and reproducing. Differ-

ent kinds of birds have different kinds of beaks -- all are adaptations for collecting and eating different kinds of food. A heron, for instance, uses its long spear-like beak to stab fish. The sturdy pointed beak of the woodpecker enables it to drill beneath the tree bark for insect grubs. The duck's straining beak allows it to filter aquatic plants from mouthfuls of pond water. The slender beak of the hummingbird allows it to sip nectar from flowers. The sturdy cracking beak of the cardinal is good for eating seeds.

Challenge your students to identify the birds in the left column of Activity Sheet 2 and then to match them with the beaks and foods in the right column. Instead of using a pencil on these activity sheets, try laminating them or mounting them on cardboard and using yarn and needles to "sew" the birds and beaks together.

Help your students locate pictures of these birds in books and find out where they live and what they eat.

Will You Listen to That?

On their field trip your students will go on a bird hike. Since birds are rarely out in the open, your students will probably hear them before they see them. Invite your students to sharpen their sense of hearing by doing the following activities. You can practice the activities outdoors or in your classroom.

Ask students to stand still, close their eyes, stretch one fist into the air, and lift a finger for each different sound they hear. No fair talking or making any sounds! When most people have finished, ask them to share what they heard. Which sounds were made by people? animals? machines?

Hearing birds is one thing; finding them is another! Help your students concentrate on the direction of a sound. Seat them in a circle and tell them that you will quietly walk around the outside of the circle as they sit with their eyes closed. When you stop, you will clap your hands twice. Keeping their eyes closed, students should point to you. When you give "the word", they can open their eyes and check their accuracy.

You can alter the activity by tapping one student on the shoulder "Duck, Duck, Goose" style. Once you've made an entire round and have stationed yourself in one place, ask whoever is "it" to be the clapper.

Vocabulary Words

Involve your students in making up a vocabulary list about birds. Ask your class what words they would use to describe a bird to a blind person. What are the names of the birds that they know? See if they suggest the words below:

beak	wing	bluejay
egg	cardinal	goldfinch
feather	duck	swallow
feet	hummingbird	red-winged blackbird
fly	woodpecker	
nest	heron	

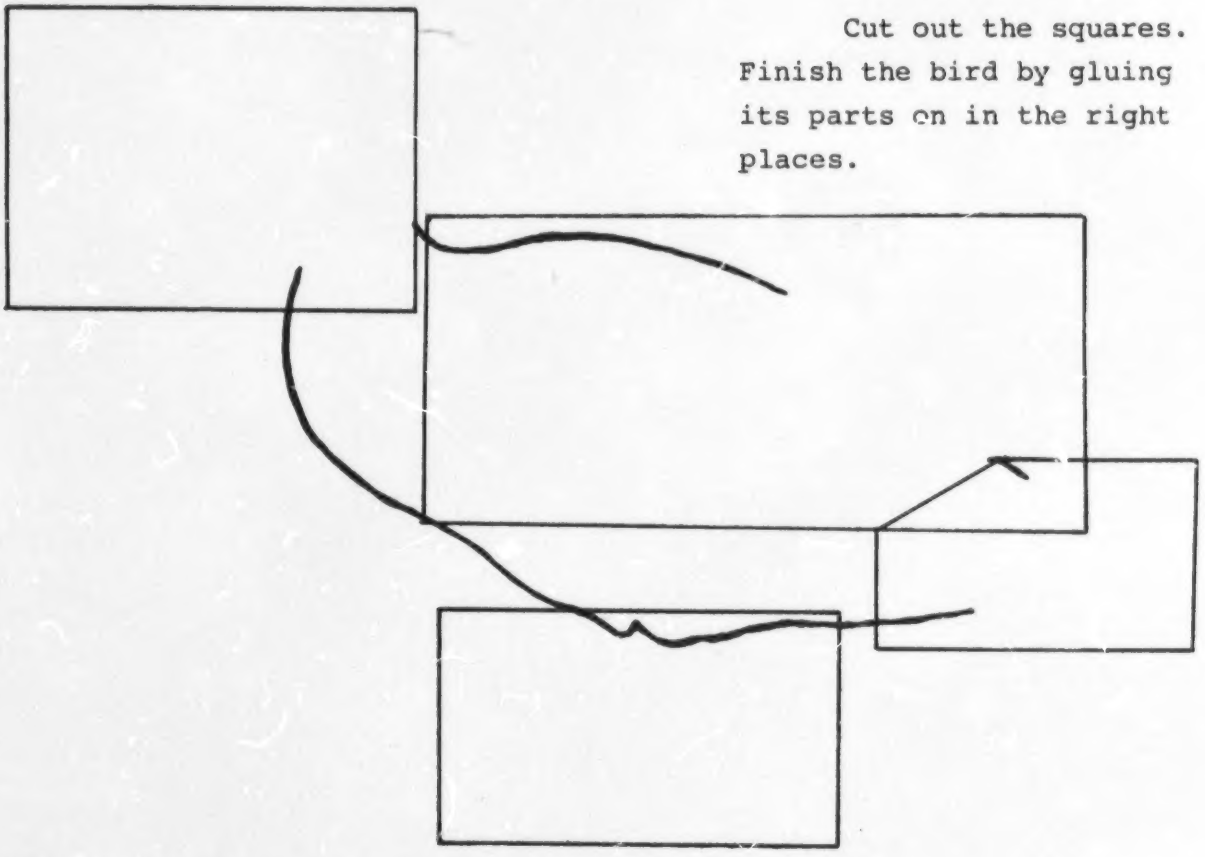
The following words will be used during the field trip. You may want to remember them for a post-trip activity.

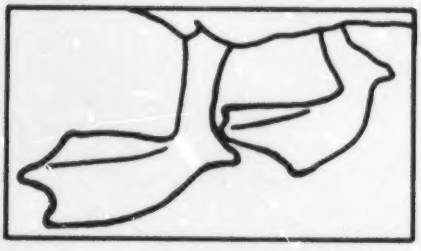
binoculars	oriole	yellowthroat
bird bath	bluebird	sparrow
bird feeder	grackle	robin
birdseed	starling	chickadee
suet	cowbird	brown thrasher
pigeon	goose	crow
wren		

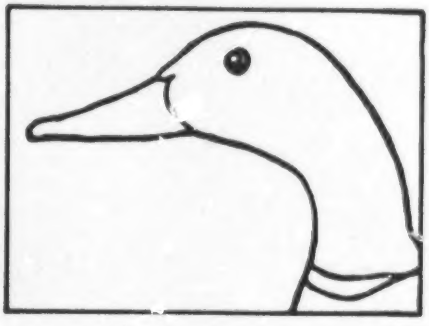
If you would like to get your students' parents involved in "Spring Birds," send them a copy of the Parent letter. It contains ideas for exploring the exciting world of birds with their children.

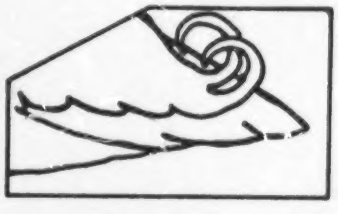
Name _____

Cut out the squares. Finish the bird by gluing its parts on in the right places.









Activity Sheet 1

Birds are Alike Yet Different

NAME _____

BIRDS AND BEAKS

Match these birds with their beaks! Then choose from this list to write their names on the blanks.

HERON WOODPECKER DUCK HUMMINGBIRD CARDINAL

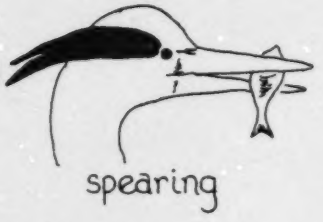
_____

_____

_____

_____

_____



Dear Parents,

Our class will be taking a field trip to the Dahlem Environmental Education Center for a program entitled "Spring Birds." We're preparing for the trip by studying the special characteristics of birds and by learning some different types of birds. At the Center we'll borrow binoculars and use them to look at birds outdoors. When we return to school we'll explore the birds on the school grounds, make birdfeeders and do bird-related art projects.

This is a good opportunity for you to share with and learn from your first grader. S/he may return from our field trip eager to talk to you about birds. Why not encourage your child by doing one of the following activities with him/her?

1. Ask you child what s/he learned about birds at school and at the Dahlem Center.

2. Help your child put up the birdfeeder s/he made at achool. Borrow a field guide from the library and try to identify the birds that come to the feeder.

3. Feed the birds at a local park.

4. Attend a film or movie hosted by your local Audubon chapter.

5. Contact me for additional ideas.

Sincerely,

First Grade Teacher

P.S. Please listen to the weather report on the day of the field trip and dress your son/daughter appropriately, especially in the case of rain. Layers of clothing and waterproof shoes are recommended.

Field Trip

Now your students are ready for their field trip to the Dahlem Environmental Education Center! Thanks to the fine background you've given them, their experience will be enriched.

The field trip will begin indoors with a brief introduction. Your students will observe birds visiting the Center's feeders and examine nests and stuffed specimens. After reviewing bird similarities and differences, your students will borrow the Center's binoculars and learn how to use them.

Once outdoors, your aspiring ornithologists will listen to bird songs, look for holes and nests, and sight birds through their binoculars. They'll also play a game comparing the functions of bird beaks to tools.

Please emphasize the importance of dressing appropriately for the weather. Layers of clothing and sturdy, water-resistant footwear are recommended.

Post-Trip Activities

The following five activities were chosen to review the major concepts in this program. They will help to extend your students' knowledge of birds to their home and school environments.

Birds at Home and School

Birds can be found almost everywhere. Your students can get to know the birds that live near their homes and school in many different ways. Try one or more of the ideas suggested below.

- Supervise a schoolyard search and sneak! Look for evidence of birds (treeholes, nests, droppings, feathers, footprints, owl pellets, etc.). Encourage your students to be on the lookout for live birds as well. Challenge them to sneak up on the birds very slowly and quietly so that they can observe as much as possible.

- Map the location of birds seen on the school-grounds. On a classroom chart list the birds that are sighted. How much can your students find out about each species?

- Discuss how to care for orphaned birds. Most young birds found in the spring are on their first exploring trips. Adult birds have probably coaxed their non-flying young out of the nest and are nearby to coax them back to safety. If, after a day or two of quiet observation, the young bird appears to be alone and in need of care, pick it up and place it in a box. To learn how to feed and care for it properly, call a veterinarian, animal rehabilitation center, or nature center. Or read a book such as Wild Orphan Babies by William J. Weber, D.V.M. or the Wild Care and Rehabilitation Manual by Adams and Johnson.

- Encourage your students to watch for birds in their neighborhood and to make a master list of all their sightings. Who saw the most unusual bird, the most birds, or the biggest bird?

Feed the Birds

Your students can enjoy birds at home by making feeders for them. While this activity is appropriate any time of the year, winter is best because that's when natural sources of feed are scarce. It is important to maintain birdfeeders all winter. Once birds discover a feeder during the cold weather, they become dependent upon it as a food source. Please stress responsibility when you suggest this to students as a winter activity.

To make a bird feeder your students will need:

For each student	For the class
empty 8 oz. milk carton	stapler
used paper lunch bag	nail
thin 7 inch dowel or stick	penknife or exactoblade
18 inches of string or fishline	
8 oz. mixed birdseed	

Before your students get into the act, secretly cut horizontal slits about 3/4 inch above each corner of the milk carton. Keep the slits a secret until the very last step!

Now that the preliminaries are out of the way, it's time to get your students involved! Help each member of your class:

- Poke two holes (the same width as the dowel or stick) in the middle of opposite sides of the carton about 3/4 inch from the bottom.
- Slide the dowel or stick through both holes. Center the dowel so that it extends equally on both sides of the carton to form two perches.
- Carefully open the top of the carton and fill it with birdseed.
- Staple the top shut where it was originally glued.

• Poke a hole half way across the top rim of the carton for hanging. Thread a piece of string or fishline through the hole and tie it securely.

• Place each feeder in a paper bag and staple it shut for easy transport home. This enables students to take the feeders home without spillage.

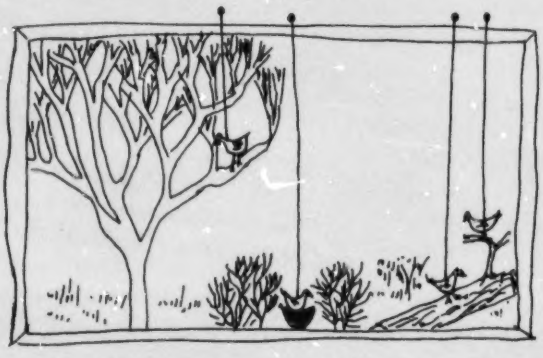
Caution students not to take their birdfeeders out of the bags until they get safely home. Then, just before dismissal, tell them the "secret". Once they're home and have unbagged their feeders, they should look for four corner slits and push in the corners above each slit. Voila! Birdseed will magically appear! Students should hang their feeders outside for the birds to feed at. Encourage them to keep an eye on their backyard visitors.*

*developed by Jane Weiser, first grade teacher

Birds in Your Classroom

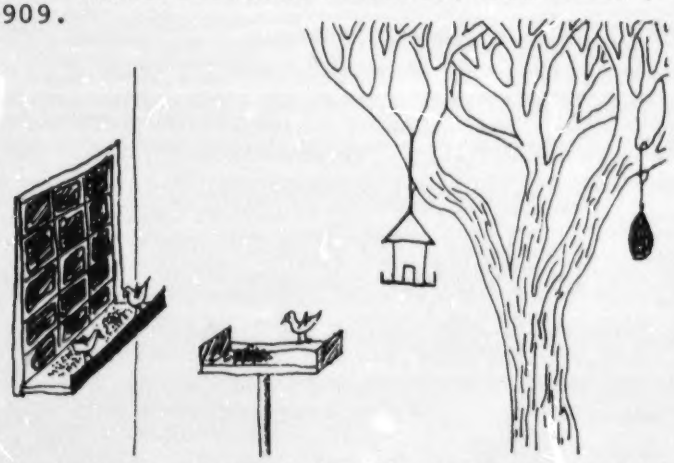
Invite some avian visitors into your classroom!

• Using Activity Sheets 3-7 and some heavy paper, cut out, color, and assemble a cardinal, blue jay, morning dove, robin, and red-winged blackbird. Then, let students flap their creations around the room, hang them individually from the ceiling, or hang them together in bird mobiles. Or ask students to take four birds home and donate one for a classroom display.



• Set up a birdfeeder outside your classroom and observe the species that visit. Sprinkle cracked corn, sunflower seeds, mixed wild birdseed, or small crumbs of bread on your window sill. If there is a tree nearby, try hanging a birdfeeder on it. You can also tie an onion bag stuffed with suet (animal fat) onto another branch. For more information,

write Michigan Department of Natural Resources for a copy of "Bright Feathers at Our Windows." Send $2.00 along with your order to: DNR Information Center, Box 30028, Lansing, Michigan, 48909.



Which species is present in the largest number at any one time? What is the greatest number of different species present at any one time? What seems to be the most popular feeding time? What foods do the birds prefer the most? Do all the birds that you see visit the feeder?

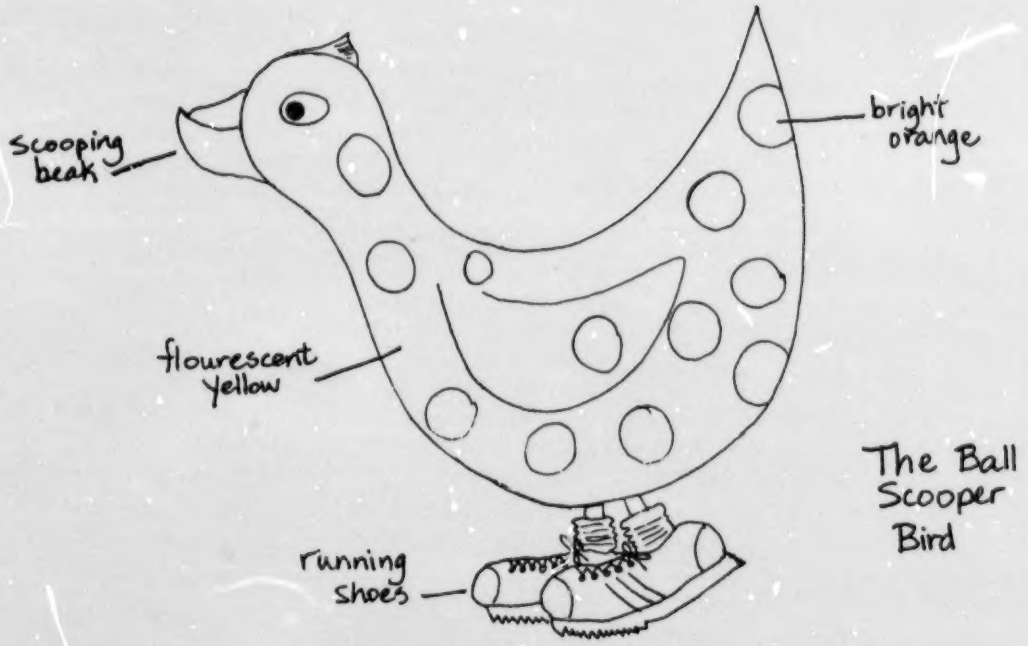
Create a Bird

Birds are adapted to eat different foods, live in different places, and survive in different ways. Your students can use their imaginations to draw their own birds. After doing Activity Sheet 8, they can design birds that:

- live in restaurants and eat only pizza
- ride on airplanes without falling off
- fly in outerspace
- race dirt bikes
- eat toothpicks
- pick up stray balls from the tennis court

Give your students an idea on how to begin with a ditto of a bird body traced from Activity Sheet 1. After talking about the adaptations needed by the bird to perform its special task, each student should draw a fantasy beak, tail, wings, and feet on their bird outline. Then invite the class to share their creations. Some students may want to draw another fantasy bird on their own from scratch.

Don't forget to display their masterpieces!



Art for the Birds

Continue your creative streak by asking your students to try some of these ideas:

- Pretend you are a bird in flight and draw a bird's eye view of your neighborhood.
- Illustrate personally written bird books.
- Make clay or paper-mache models of birds, nests, and eggs.
- Make crushed eggshell mosaics.
- Blow out eggs and decorate the shells with fabric, sequins, or trim. Use them to decorate an egg tree.
- Dye hard-boiled eggs with natural dyes such as onion skins. Try using a wax crayon to create a resist.
- Carve a feather into a quill pen and use it.
- Make plaster casts of bird footprints.
- Illustrate famous bird sayings. Here are some ideas

to get you started:

You birdbrain!
Oh, horsefeathers!
What are you crowing about?

"Egg-stra" Options

Here is a list of some optional bird-related activities for you and your students to enjoy.

• Write class letters requesting copies of these National Wildlife Federation publications: "Birdwatching with Roger Tory Peterson," "Let it Be -- Wild and Free," and "Recycle for Birds." The Federation's address is: 1412 16 St. NW, Washington, D.C., 20036. After students receive their materials, they can practice their etiquette by writing thank-you notes.

• Involve your class in a chicken soup-making project. Pass around a plucked uncooked chicken and ask your students to feel how it moves and how its joints fit together. Cook the fowl until the meat falls off. Remove the bones and sort them into piles. Draw a life-size outline of the bird and then tape the bones where students think they belong on the picture. Then make chicken rice soup and eat it while listening to Carole King's rendition of "Chicken Soup with Rice."* (See the reference section for bibliographic information.)

* developed by Jane Weiser, first grade teacher

• List ways that birds help humans. (Birds eat harmful insects, prepare seeds for germination, insulate jackets and sleeping bags, provide beauty and companionship, etc.)

• Tell which bird you'd like to be and why.

• Make bird nests out of natural materials.

• Collect fresh chicken and beef bones. Cut them open and compare their insides.

• Examine a feather under a microscope. What happens when a bead of water is dropped on it?

• Pretend you can fly and describe the sensation.

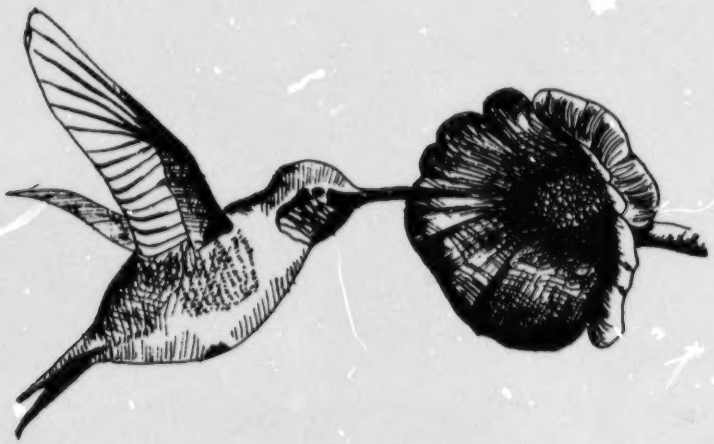
• List and alphabetize the names of different species of birds.

• Hatch eggs. (Contact your local 4-H Cooperative Extension Office or Dairy Council about how to obtain fertilized eggs.)

• Visit a poultry farm or invite a poultry farmer to speak to your class.

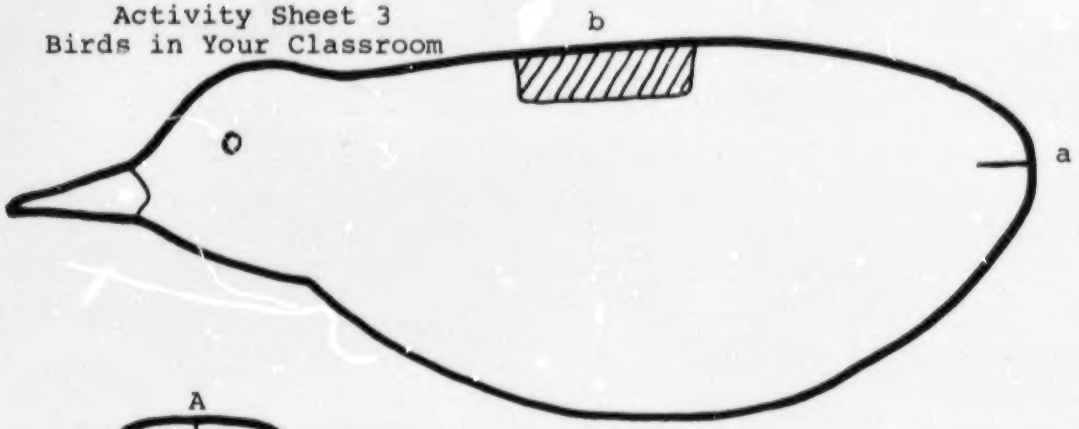
• Play recordings of different bird songs. (See the list of records recommended in the reference section.)

• Trace bird migration routes on a map of North and South America.

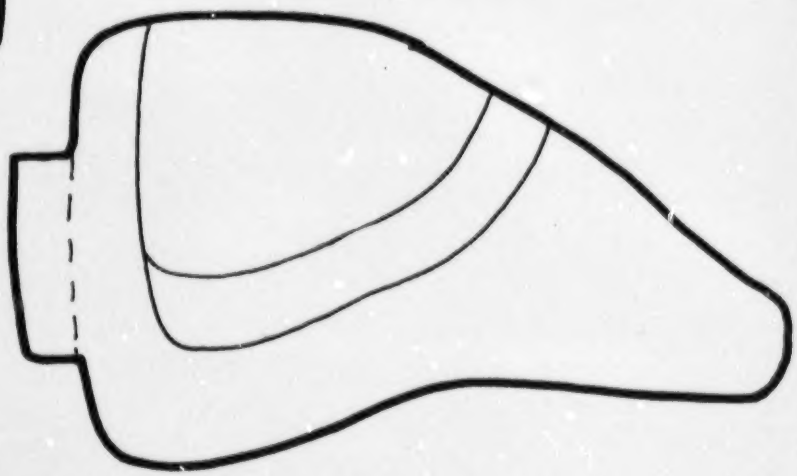


Congratulations! You and your students have made a lot of new fine-feathered friends. You devoted a lot of time and energy to teaching your class about birds. Someday your students' awareness and concern for their new friends may develop into an environmental consciousness that will make our world a better place. So sit down, take off your shoes, and put up your feet -- you deserve a rest!

Activity Sheet 3
Birds in Your Classroom



RED-WINGED
BLACKBIRD

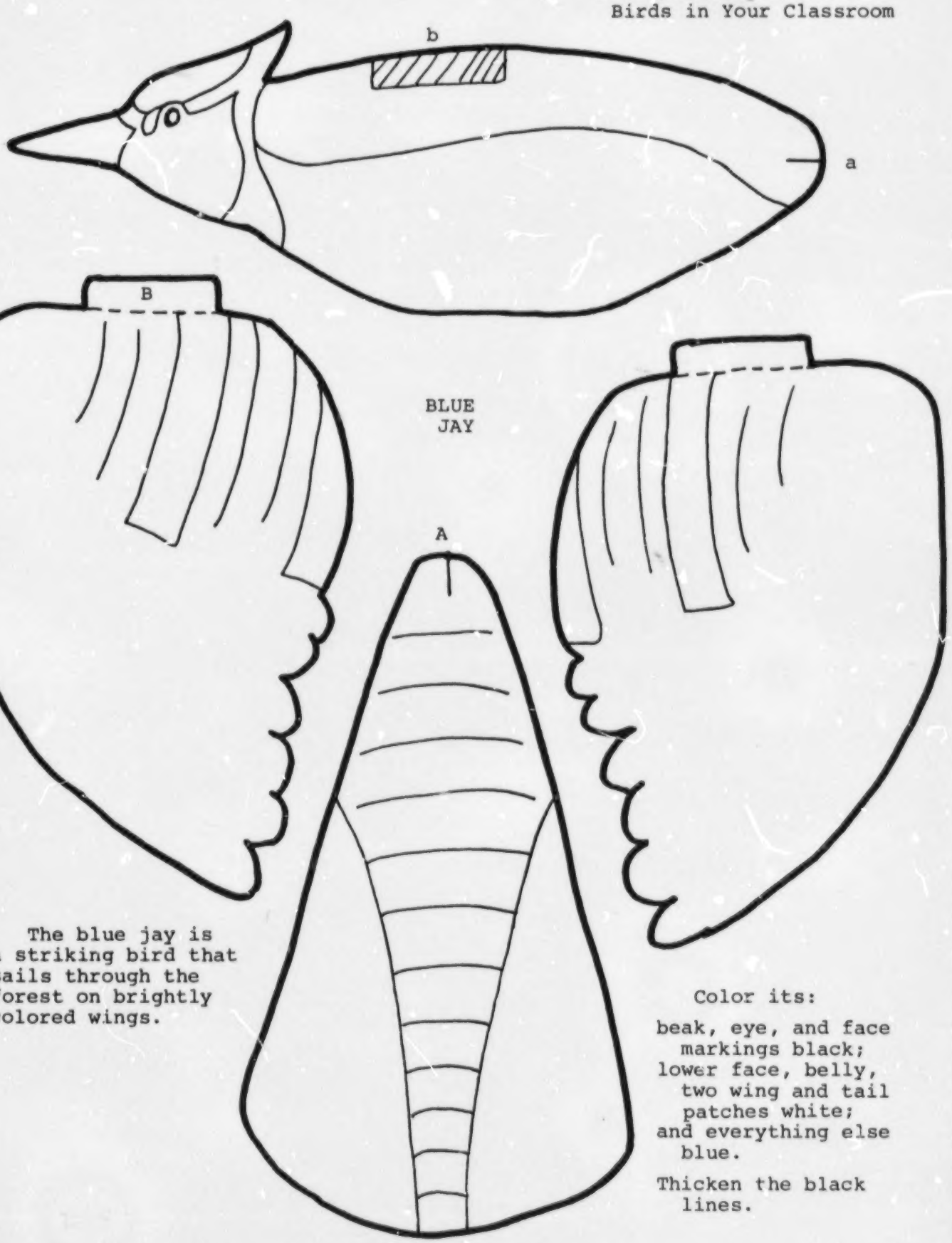


Cut out all the bird pieces. Fold tab B and attach the left wing to the body at b. Attach the right wing.

Join slits A and a to attach the tail to the body.

Red-winged blackbirds often nest in cattail marshes in this area. The males proudly display their red shoulders to intruders on their territory.

Color his: beak and eye grey;
large wing patch red;
small wing stripe yellow;
and everything else black.

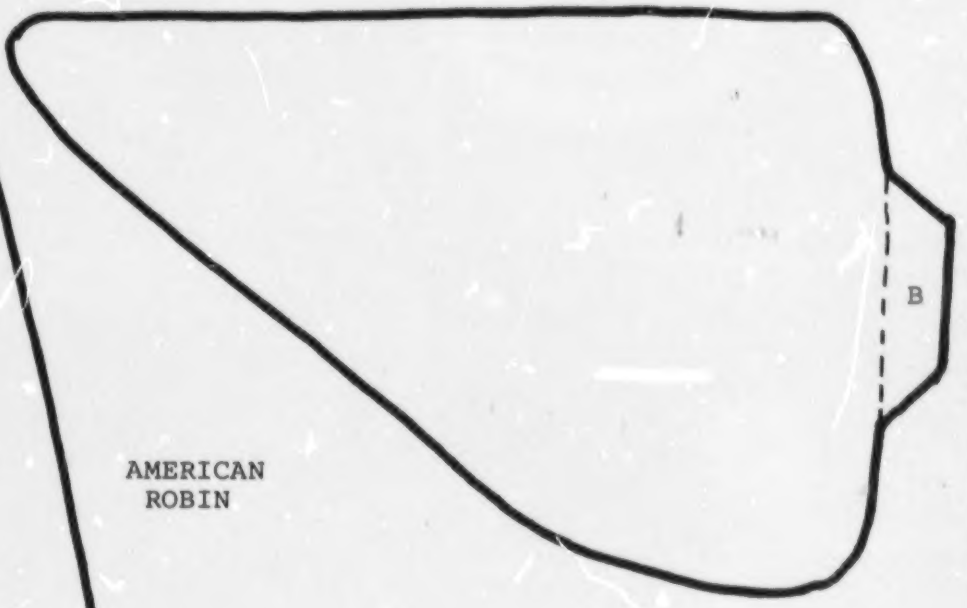


The blue jay is a striking bird that sails through the forest on brightly colored wings.

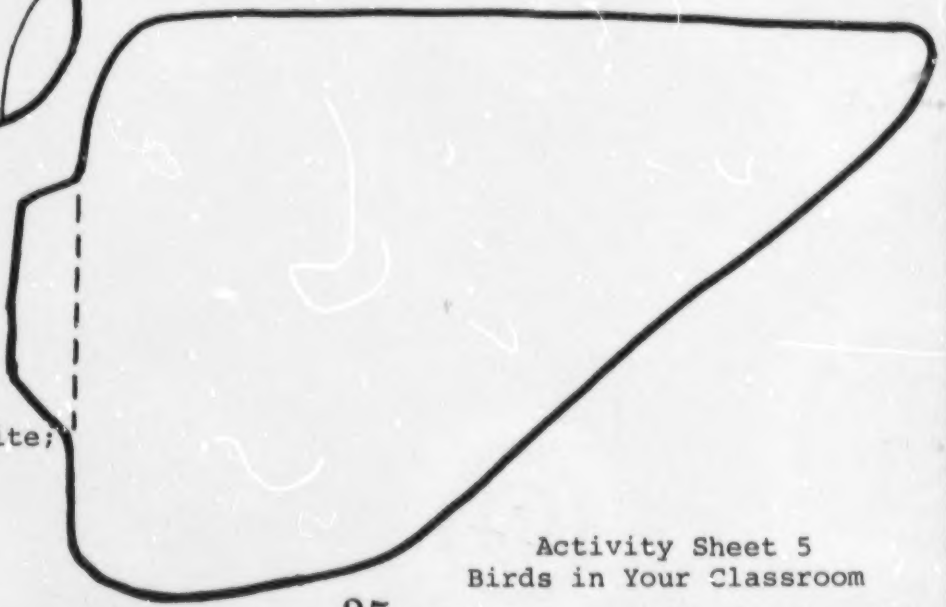
Color its:

beak, eye, and face markings black;
lower face, belly, two wing and tail patches white;
and everything else blue.

Thicken the black lines.



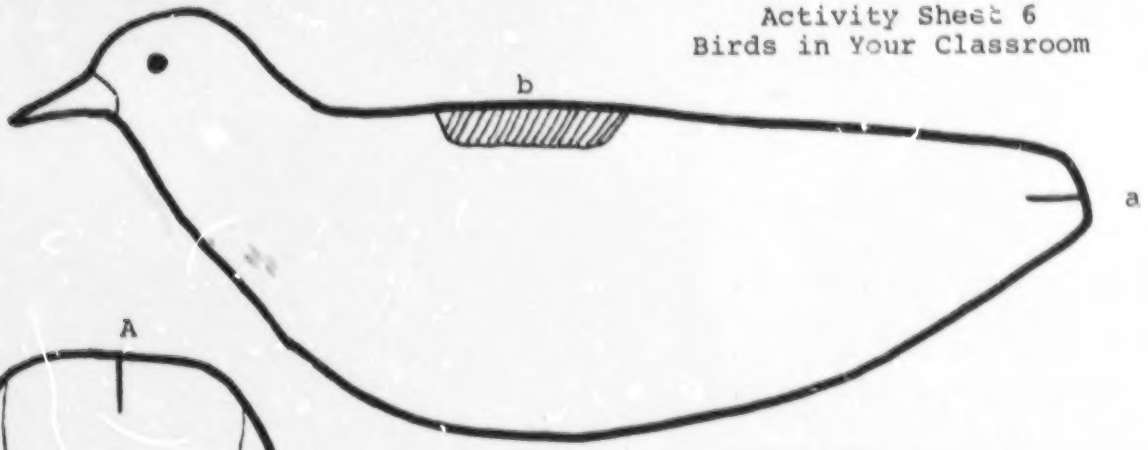
AMERICAN
ROBIN



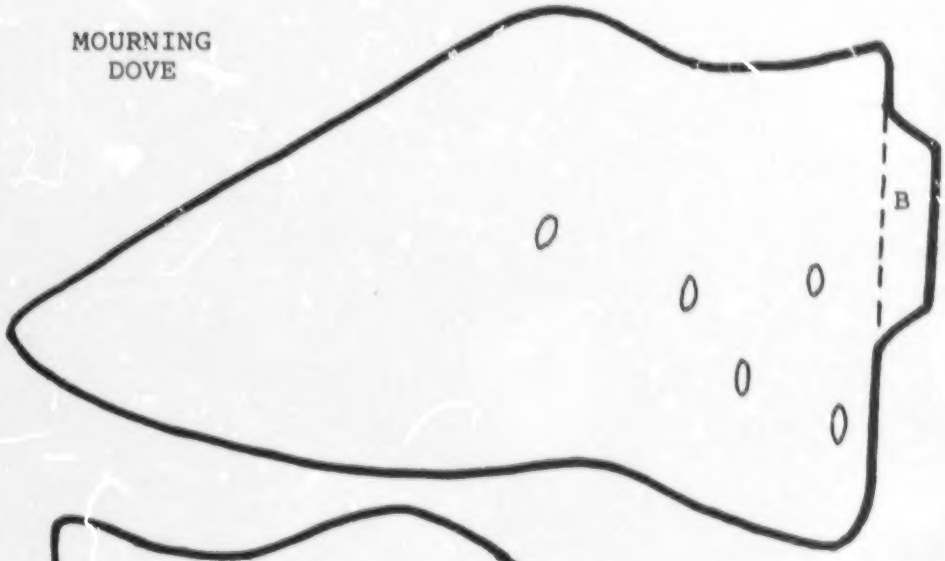
The robin hops across lawns searching for worms and insects.

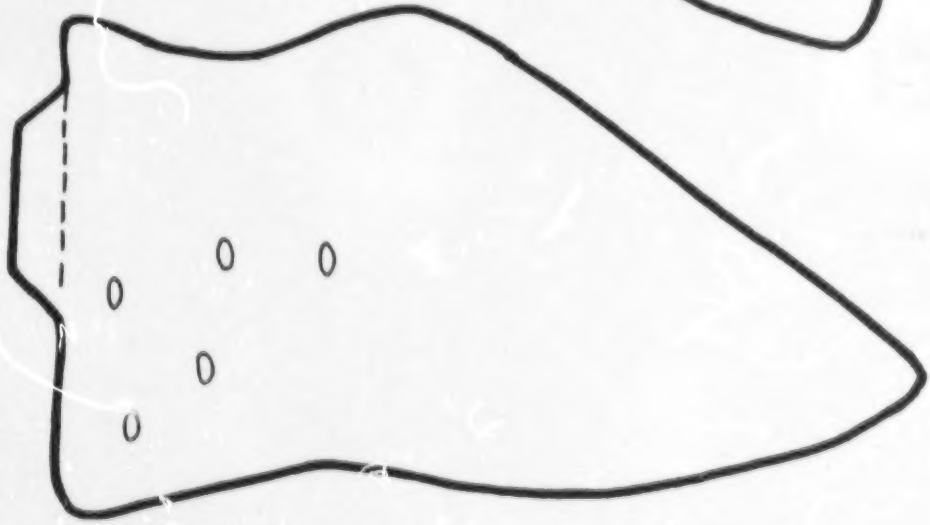
Color the:

beak yellow;
belly brick-red;
eye ring & tail spots white;
throat with alternating black and white stripes;
and everything else dark brown.



MOURNING
DOVE

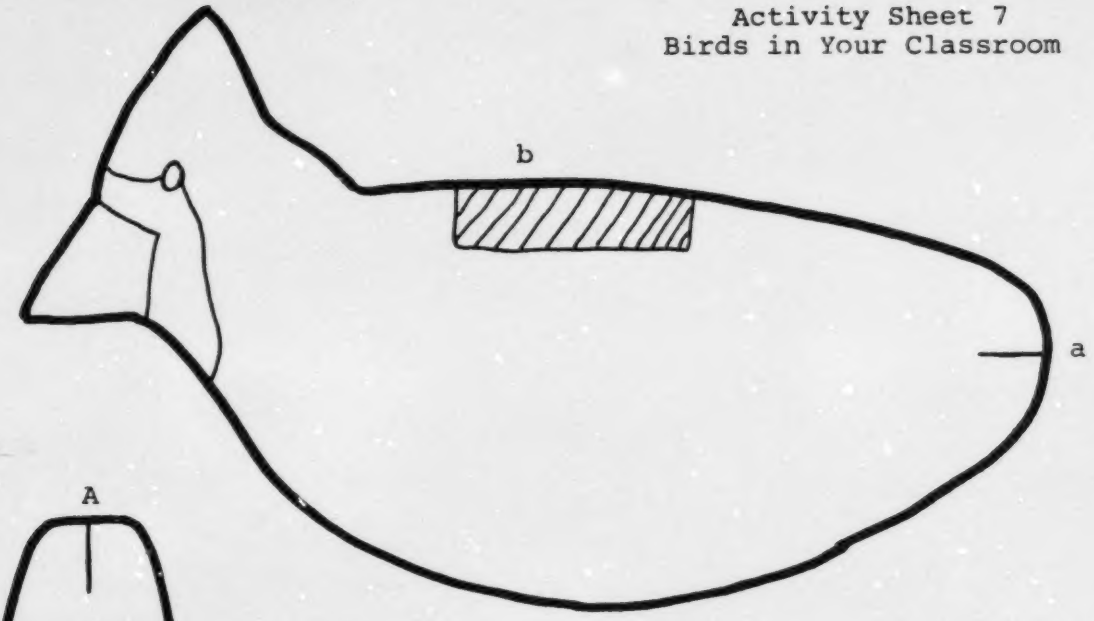




The mourning dove coos from a high perch. Its wings whistle when it takes off.

Color the:

beak, wing spots, and thin tail band black;
tip of the tail white;
fat tail band grey;
the wings and body end of tail greyish-brown;
and the back greyish-brown fading to pinkish-tan.



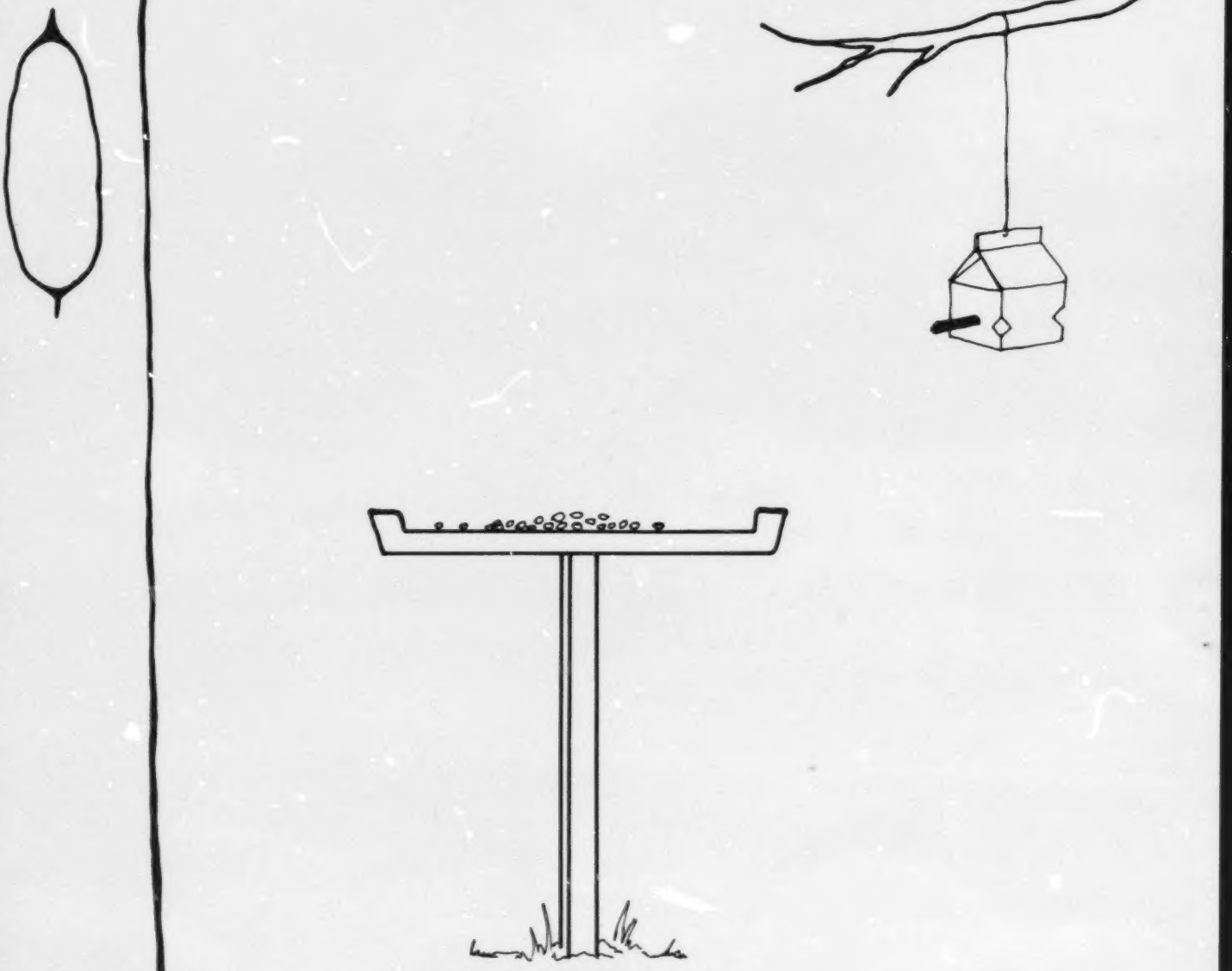
CARDINAL

The cardinal is a common winter visitor at bird feeders and is often seen singing from a high perch in the spring.

Color his: beak orange;
eye grey;
face mask black;
and everything else red.

Name _____

You saw your favorite birds near the feeders. Draw them here. Show someone your birds and tell why you like them.



Activity Sheet 8
Create a Bird

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J598.2 C979 *Curtis, M. J. From Robin to Junco: Stories of Birds and What They Do. New York: Houghton, 1940.

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J598.2 F917 *Friskey, M. True Book of Birds We Know. Chicago: Children's Press, 1954.

J598.21 G *Gans, Rams. When Birds Change Their Feathers. New York: Crowell, 1980.

J598.2 G229 *Garelich, May. What's Inside? New York: William R. Scott, Inc., 1955.

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J598.2 H713 *Hofmann, M. Book of Big Birds. New York: Doubleday and Co., 1960.

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J598.2 S524 *Shackelford, N. Bird Nests. New York: Golden Press, 1962.

598.2 Z71 *Zim, Herbert S. and Ira N. Gabrielson. Birds. New York: Golden Press, 1956.

* These books are available at the Jackson District Library. Similar titles may be found at the Library's 16 branches under the same Dewey Decimal numbers.

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At REMC....

The Jackson County Intermediate School District's Regional Educational Media Center has the following audio-visual aids:

Motion Pictures:

"Bird Homes"	MP 606
"Birds: How They Live Where They Live"	MP 112

"Birds Are Interesting"	MP 603
"The Incubator -- Classroom Science"	MP 797
"Poultry on a Farm"	MP 947
"Sharp Eyes"	MP 1996
"A Visit to Wild Bird Island"	MP 2379
"Wee Geese"	MP 1686

Picture Set:

"Beginners Bird Box and Songs"
SE 3311, science shelf 3
1 teaching song card, 1 cassette, 1 guide, 10 bird picture cards, 1 nest and eggs card

Reader Cassettes:

Read About Life Sciences -- Birds
SE 3018, science shelf 2
8 readers, 1 program guide, 1 cassette, and worksheet masters

Ruby Throat
SE 0823, science shelf 9
4 readers and 1 cassette

Video Cassette:

"Birds"
VC-52

And Elsewhere...

Records:

"American Bird Songs," Vol. 1 and 2. Geneva, IL: Houghton Mifflin Company.

"Chicken Soup With Rice." Written by Maurice Sendak and sung by Carole King. Really Rosie, © 1981.

"Evening in Sapsucker Woods." Ithaca, NY: Houghton Mifflin Company.

Transparencies and Duplicating Masters:

"Birds". Heyer, Inc., 1850 Kostner Ave, Chicago, IL 60623.

"Hatching of an Egg" and "Yolk to Three Weeks." CCM School Materials, 2124 82nd Place, Chicago, IL 60620.

SPRING BIRDS

First Grade Spring Field Trip

Formal Objectives

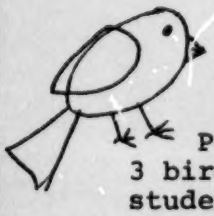
Learn common species of birds
Improve listening skills

Informal Objectives

Understand the concept of adaptation
Explore the environment for signs of birds
Introduce students to the proper use of binoculars
Learn a few common birds
Review food chain and habitat concepts
Have fun!

Indoor Portion

Welcome the group; introduce yourself and the Dahlem Center. Then find out how much they know about birds.



Draw an oval on the board, having the kids fill in the parts until they have a bird! Explain that all birds are different from each other because of differences in those parts (beaks, wings, feet, etc.)

Point out differences on the poster boards, and pass around 3 birds. When the stuffed birds are being passed, caution the students to handle them gently, holding each by the body, not the feet or tail. Also, pass around the nests, noting that different birds even make different nests.

Ask the group what they would look at to help identify a bird: color, size, markings, shape, and flight pattern will help! Explain to them they will have binoculars to help them spot these things, but that we are going to practice inside.

String up the wire and have the kids use their hands, shaped into tubes, or TP tubes to narrow their vision. Fly the birds, asking them what identifying marks they saw. Find the birds on the posters.

Explain they will have 2 tools to help see birds, the binoculars and the Audible Audubon. Hopefully, the calls will bring the birds closer to us, and the binoculars will help us see far away things.

Pass out binoculars, asking each kid to unwrap them and take off the lens caps. Caution them against abusing their tools.

SE045122

Outside

In the Arboretum, teach them how to use the binoculars. Show them how to narrow the eyepieces and how to focus them.

Remind the kids they must listen closely to hear or see the birds and should try not to make too much noise. When they hear or see a bird, they should quietly tell someone, so everyone can have a chance to see it.

In addition to birds, they might see signs that birds live here--nests, holes, food, whitewash... Let everyone know if they see one!

When you hear a bird, play the appropriate card to try to draw it in. When you locate it, pass around the flashcard to help the kids understand what they are looking for, or show the picture on the Audubon card.

*Bird Food Game

This game will help explain the concept of adaptations and can introduce a short discussion on food chains. It can also give one group time to get ahead, as it is best done close to the building.

Remind the students that birds eat different things, and explain that they are going to explore why this is so, by becoming birds.

Each "bird" will get a "stomach" (a plastic container) and a "beak" (a tool) but because many birds have different beaks, they will get a variety of tools to help them eat.

Around the "birds" set up 5 stations, each with a different type of food. Divide the group into 5 smaller groups and put each at a station. Challenge the "birds" to find the best food for them. Describe the foods (flower nectar, floating plants, animals at the bottom of the pond, insects in a log, and seeds in a field) and give the "birds" 10 seconds at each station to try to eat each type of food. Food qualifies as being "eaten" when it is placed in the "stomach."

The food that is best for them is the predominant food in their "stomach." Have them line up by the food they can eat and ask them what real bird eats like they did. Hummingbirds, ducks, herons, woodpeckers, and cardinals are a few examples.

Reinforce the main idea by saying everything in this world has certain adaptations that help it survive. In many cases these adaptations are directly related to finding food and eating. For birds, this means BEAKS! The plants and animals that each bird eats give it the energy to survive. The plants and animals, in turn, get energy too. Go through the food chain, back to the sun.

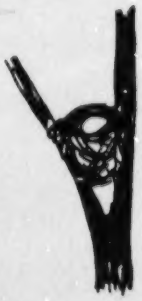
Return

As a way of reviewing, ask the group what birds they remember seeing, and what birds match your descriptions. Gathering them in a circle, ask what they really liked about their trip and what they may share with their family tonight when they get home from school.

When you return to the building, have each student put the lens caps on the binoculars, the binocs in the case, and the case in the cabinet!

*Another useful idea is to simply sit, watch, listen, and write. With some groups this is impossible, but with others it is fun! An occupied bird house or the trailside feeders make nice spots to sit and watch the birds!

Bird Bingo

Our State Bird	A Homey Hole	Bird tracks
A Bird Nest 	Bird Food -Berries	A bird song
Feather	A Brown Bird	Soaring Silhouette
White Wash	A Treetop Singer	Bird Food -Animals